What is claimed is:

1. A method of plasma etching a layer of oxide within a chamber comprising:

supplying a gas mixture containing a fluorocarbon gas and a fluorohydrocarbon gas to the chamber;

igniting a high-density plasma within the chamber by coupling RF energy to the gas mixture; and

etching said oxide.

2. The method of claim 1 wherein the fluorocarbon gas within said plasma source gas is selected from a group of gases containing CF_4, C_4F_6, and C_4F_8..

3. The method of claim 1 wherein the fluorohydrocarbon gas within said plasma source gas is selected from a group of gases containing CHF_3, CH_2F_2 and CH_3F.

4. The method of claim 1 wherein the gas mixture comprises 30 to 100 sccm of CF_4, and 6 to 200 sccm of CH_2F_2.

5. The method of claim 1 wherein said igniting step comprises the step of applying a bias power to a cathode electrode of 200 to 500 watts.

6. The method of claim 1 wherein said igniting step comprises the step of applying an inductive source power to an antenna of 400 to 1500 watts.

7. The method of claim 1 wherein a chamber pressure is between 4 to 60 mTorr.

8. The method of claim 1 wherein, during the etching step, a pedestal that supports the layer of oxide within the chamber is maintained at a temperature between 0 and 100 degrees Celsius.

9. The method of claim 1 wherein said oxide layer is covered in part by a photoresist layer and the etching step provides a selectivity of oxide to photoresist that is greater than 300:1.

10. The method of claim 1 wherein said high-density plasma has a plasma density greater than 10^{11} cm^3.

11. The method of claim 1 wherein the gas mixture comprises CF_4 and CH_2F_2 in a CF_4:CH_2F_2 ratio of 1:1.5.

12. The method of claim 1 wherein the gas mixture comprises CF_4 and CH_2F_2 and adjusting the ratio of CF_4:CH_2F_2 controls a selectivity of oxide over photoresist.

13. A method of plasma etching a layer of oxide comprising:

supplying a gas mixture containing CF_4 and CH_2F_2 to a chamber;

igniting a plasma within the chamber by applying a bias power to a cathode electrode of about 500 watts and by applying an inductive source power to an inductively coupled antenna of about 700 watts; and

etching said oxide.

14. The method of claim 13 wherein a gas pressure within the chamber is between 4 to 60 mTorr.

15. The method of claim 13 wherein, during the etching step, a pedestal that supports the layer of oxide within the chamber is maintained at a temperature between 0 and 100 degrees Celsius.

16. The method of claim 13 wherein said high-density plasma has a plasma density greater than 10^{11} cm^3.

17. The method of claim 13 wherein the gas mixture comprises CF_4 and CH_2F_2 in a CF_4:CH_2F_2 ratio of 1:1.5.

18. The method of claim 13 wherein the gas mixture comprises CF_4 and CH_2F_2 and adjusting the ratio of CF_4:CH_2F_2 controls a selectivity of oxide over photoresist.

19. The method of claim 13 wherein the gas mixture further comprises HeO_2.